

REMARKS

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner. The Office is respectfully requested to reconsider the rejections presented in the outstanding Office Action in light of the following remarks.

Claims 1-23 were pending at the time the outstanding Office Action was issued by the Examiner. Of these claims, claims 1, 12 and 23 are independent claims, the remaining claims are dependent. Claims 1-23 stand rejected. Claims 4-11 and 15-23 stand objected to for containing informalities.

Applicants have amended claims 1-3, 5-9, 11-14, 16-20, 22 and 23 and cancelled claims 4, 10, 15, and 21 from further consideration in this application. Applicants are not conceding in this application the claims amended and cancelled herein are not patentable over the art cited by the Examiner, as the present claim amendments and cancellations are only for facilitating expeditious prosecution. Applicants respectfully reserve the right to pursue these and other claims in one or more continuations and/or divisional patent applications. Applicants specifically state no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Objections to the Drawings:

The drawings received on January 22, 2004 are objected to under 37 CFR 1.121(d). Applicants note, however, the application was published with the drawings as

submitted in 2004. Nonetheless, Applicants are submitting herewith formal drawings with the top margins labeled “Replacement Sheet”. Applicants respectfully submit that the submission of these drawings obviates the Examiner’s objection.

Objections to the Specification

The specification stands objected to because of the following informalities: “preferably is not retained when then execution unit terminates” should presumably read—“preferably is not retained when the execution unit terminates” on page 12, lines 11 and 12. In response, Applicants have submitted a replacement paragraph, the only change therein being a the change suggested in the Office Action (i.e. striking “then” and inserting “the”). Therefore, Applicants respectfully request that the objections to the specification be reconsidered and withdrawn.

Objections to the Claims

Claims 4-11 and 15-23 stand objected to because of the following informalities:

Claims 4-11 and 15-22 recite the limitation “the throttling level”; claim 21 contains a typographical error “the utility implement the throttling level”; and claim 23 contains a typographical error “the method comprising, said method comprising the steps of”.

In response, Applicants have amended the claims 4-11 to recited “the derived throttling level” as suggested by the Examiner to ensure sufficient antecedent basis. Applicants have cancelled claim 21. Applicants have also amended claim 23 to recite, *inter alia*:

A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform a method ~~steps~~ for regulating resource consumption in a computer system used for utility work and production work, the ~~method comprising~~, said method comprising the steps of:

Claim 23. Therefore, Applicants respectfully request the objections to the claims be reconsidered and withdrawn.

Claim Rejections under 35 U.S.C. 112

Claims 1-23 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 stands rejected under 35 U.S.C. 112 as having insufficient antecedent basis for the limitation “the apparatus.” In response, Applicants have replaced “the apparatus” with “the system” to achieve internal consistency and remove the antecedent basis problem in the claim language and further removing the rejection from the claims depending from claim 1 (claims 2-11).

Claims 1-3, 12-14 and 23 stand rejected under 35 U.S.C. 112 as having insufficient antecedent basis for the limitation “the system.” In response, Applicants have the claims to recite, *inter alia*, “the computer system” as suggested by the Examiner, thus removing the objectionable language from the independent claims and the claims depending therefrom (claims 4-11 and 15-22).

Claims 6 and 17 stand rejected under 35 U.S.C. 112 as having insufficient antecedent basis for “the multi-processes”. In response, Applicants have amended the claims to recited, *inter alia*, “multi-processes” as suggested by the Examiner.

Claim 23 stands rejected under 35 U.S.C. 112 as having insufficient antecedent basis for the language “the method” and “said method”. In response, applicants have amended the language of claim 23 to recite a the preamble as noted above. Applicants submit that the limitation “the method” has sufficient antecedent basis via the use of the language “a method” previously in the preamble.

In view of the foregoing amendments and remarks, Applicants respectfully request that the Examiner reconsider and withdraw the rejections of the claims under 35 U.S.C. 112, second paragraph.

Claim Rejections under 35 U.S.C. 101

Claims 1-11 stand rejected under 35 U.S.C. 101 as being directed towards non-statutory subject matter. Solely in an effort to expedite prosecution, Applicants have amended claim 1 to recite, *inter alia*, “wherein the system utilizes a processor to regulate resource consumption.” (Claim 1). Applicants respectfully submit that this language clearly renders the claim directed towards statutory subject matter. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw these rejections of the claims.

Claim Rejections under 35 U.S.C. 102(e)

Claims 1-23 stand rejected under 35 U.S.C. 102(e) as being anticipated by Douceur et al. (U.S. Patent No. 6,834,386) (hereinafter “Douceur”). Applicants respectfully request reconsideration and withdrawal of these rejections.

As best understood, Douceur teaches a system and method for regulating tasks of background processes so as to reduce interference with foreground processes by suspending the background task at determined intervals by utilizing a background task controller. *Douceur*, Abstract. While directed generally at solving a similar problem, Douceur takes a starkly different approach to solving the problem of ensuring background tasks are performed while not interfering unnecessarily with foreground tasks.

Applicants respectfully submit that the instantly claimed invention is not limited in the ways that the teachings of Douceur are. For example, the instantly claimed invention is not limited to the utilization of a separate “background task controller” to enforce suspension of the utilities, as is taught in Douceur.

Douceur, Figure 6 and accompanying text.

Rather, the instantly claimed invention allows for a code running within the thread/process itself; a distributed type of enforcement is employed wherein the background task can determine when throttling is enforced, rather than having a centralized controller (i.e. “external agent”) enforcement mechanism.

Specification, page 17, line 14-page 19, line 16, Figs 7-10 and accompanying texts. This allows for adequately handling situations where the ability of one

process to suspend another does not exist (e.g. as in an operating system that does not permit this). Thus, the instantly claimed invention can be implemented in any operating system and is thus more general in application.

Applicant now notes some additional differences between the instantly claimed invention and the teachings of Douceur. It is hoped that the following will help to facilitate prosecution of the instant application.

First, as to claim 1, Douceur does not teach any method for determination of the utilities. In contrast, the instantly claimed invention determines the utilities, the operation of a utility registering with the utility manager is described in the specification and specific examples are given such as in Figure 6, step 210, or Figure 7, step 290, or Figure 8, step 410, or the pseudocode given in Figure 10.

The Examiner's attention is specifically directed to Douceur, Col. 18, lines 1-14 wherein the operation of the background controller is clearly an external, separate process. Moreover, the text cited by the Examiner in the outstanding Office Action likewise supports this externally forced control, and this is, as above, in stark contrast to the instantly claimed invention.

As to claim 5, it should be further noted that in the instantly claimed invention, suspension or sleep is only one of several options for enforcing the throttling level. This stands in stark contrast to the teachings of Douceur, wherein no additional mechanisms other than suspension are discussed/taught.

As to claim 6, it should be further noted that Douceur never discusses reducing the parallelism level of the utility work. Rather, Douceur merely states that the utility may consist of multiple processes, but does not mention at all reducing the level of parallelism.

As to claim 7, the text cited by the Examiner is merely discussing an outcome of reducing the operating system priority, which is a well known concept, not one invented by Douceur. No mention of reducing memory (i.e. RAM) usage as a throttling mechanism is made.

As to claim 8, it should be further noted that the text cited by the Examiner refers to the normal behavior/implementation of the groveler utility; it is not influenced or affected by the throttling system. Douceur does not mention that the throttling level can influence the granularity or behavior of how the utility acquires or releases locks.

As to claim 9, the text cited by the Examiner refers to reducing the processing time allocated to the utility. Claim 9 refers to the utility choosing to reduce the amount of work it does. For example, choosing to do less complete garbage collection, or doing less compression.

As to claim 11, Douceur teaches the task controller takes action by suspending the background task, it never changes the operating system priority. In fact, the text in Col. 7, lines 44-52 of Douceur indicate that the priority is assigned by default or by some entity other than the task controller. This stands in stark contrast to the instantly claimed invention.

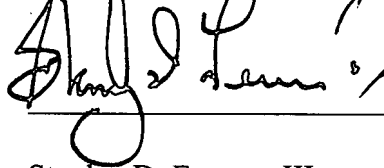
Solely in an effort to facilitate expeditious prosecution, Applicants have cancelled claims 4, 10, 15 and 21, and amended the independent claims to recite, *inter alia*, wherein said arrangement for enforcing the throttling level is implemented within the at least one utility.” (Claim 1). This language essentially incorporates the language of claim 4 and indicates that, rather than having a central controller, the arrangement that enforces the throttling is implemented within the at least one utility. Applicants respectfully submit that this clearly distinguishes the instantly claimed invention from the teachings of Douceur. The other independent claims have been amended to contain similar language. Therefore, Applicants respectfully submit that the Douceur clearly falls short of the instantly claimed invention and request that the Examiner reconsider and withdraw these rejections.

Conclusion

The “prior art made of record” has been reviewed. Applicants acknowledge that such prior art was not deemed by the Office to be sufficiently relevant as to have been applied against the claims of the instant application. To the extent that the Office may apply such prior art against the claims in the future, Applicants will be fully prepared to respond thereto.

In summary, it is respectfully submitted that the instant application, including claims 1-3, 5-9, 11-14, 16-20, 22 and 23, is presently in condition for allowance. Notice to the effect is earnestly solicited. If there are any further issues in this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Stanley D. Ference III", is written over a horizontal line.

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